PCT CO-OPERATION TREATY

Applicant:	Agency for Science, Technology and Research, et al.
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International Preliminary Examination Authority
Australian Patent Office
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Dear Sirs:

RESPONSE TO WRITTEN OPINION

This is in response to the Written Opinion mailed February 17, 2006 under Article 34 (2) (d) of the PCT.

Claim 1 of the present invention relates to a method of forming a polymer and recites polymerizing a microemulsion comprising a drug, water, a monomer and a surfactant copolymerizable with said monomer to form a polymer matrix defining interconnected pores filled by water, and the drug is dispersed in one or both of the polymer matrix and the pores and is releasable therefrom when the polymer is in contact with a liquid.

Similarly, Claims 17, 20 and 23 each recites a polymer or polymer matrix defining interconnected pores and a drug dispersed in one or both of the polymer (matrix) and pores. Claims 20 and 23 each recites that the drug is an ophthalmic drug.

In the current Written Opinion, the Examiner again indicated that claims 1-24 are considered to lack an inventive step, because claims 17 and 23 do not require loading of the drug at the polymerization stage of polymer, and it has not been shown that discrete pores are incapable of harboring drugs and releasing them in a controlled manner.

Since claim 1 specifies polymerizing a microemulsion that comprises a drug and thus "loading" the drug before the polymer is formed and the Examiner has not indicated otherwise, claim 1 and claims 2 to 16 dependent therefrom directly or indirectly are inventive. Reconsideration of the inventiveness of claims 1 to 16 is thus respectfully requested.

All of the claims relate to a polymer having interconnected pores, which is advantageous over a polymer having discrete pores for drug delivery purposes. As submitted in the previous Response, one such advantage is that a polymer with interconnected pores can release drug at a higher, steadier rate than a polymer with discrete pores. One skilled in the art can readily understand that barriers between unconnected pores would slow down or even prevent movement of the drug towards the exterior surface of the polymer. The drug has to pass through the barriers. Thus, the drug release rate would drop quickly once the drug initially stored near the surface has been released. Any control over the release rate in such a polymer, if at all possible, would be

rather limited. In contrast, in a polymer as recited in the present application, the stored drug can travel more quickly to the surface through the interconnected pores, and thus the release rate can be higher and steadier. Therefore, the mere possibility identified by the Examiner that discrete pores can harbour drugs and release them in a controlled manner does not address the advantages provided by interconnected pores for the controlled release of a drug. Since neither the interconnected pores nor their advantages are disclosed or suggested by the cited art, each of claims 1 to 24 is inventive over the prior art of record.

In view of the above, the Applicant respectfully requests a favorable International Preliminary Report on Patentability.

Respectfully submitted,

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